

# Occupational Burnout Among Recreational Diving Instructors: Relationships with Personality and Sociodemographic Variables

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## ABSTRACT

Personality is one of the factors that has been suggested as an important predictor of burnout; however, the precise relationships between the main personality factors and burnout have not been fully explained thus far. The aim of the current study was to examine the relationships between the main personality factors as proposed by the six-factor personality model (HEXACO) and occupational burnout as conceptualized in Schaufeli's four-factor model in a sample of recreational diving instructors when controlling for the effects of basic sociodemographic variables. The study sample consisted of 1188 recreational diving instructors (72.2% men). The participants completed an online battery of questionnaires measuring burnout symptoms (Burnout Assessment Tool), main personality factors (HEXACO PI-R 60) and sociodemographic and occupation-related variables. It was found that 10.6% of the recreational diving instructors were at risk or very high risk of occupational burnout at the time of the study. Women reported significantly higher levels of burnout symptoms than men. Age and length of work experience were significantly but weakly negatively correlated with burnout severity. Among the main personality factors, emotionality was positively associated with burnout, whereas honesty-humility, extraversion, agreeableness, conscientiousness, and openness to experience were all negatively correlated with burnout. Burnout was more strongly associated with conscientiousness in men than in women and more strongly associated with openness to experience in women than in men. Similar amounts of variance in burnout were explained by personality in both men and women; however, slightly different predictors of burnout were found to be significant for men and women. The findings contribute to the existing body of knowledge on burnout by elucidating possible gender differences in the risk of burnout and its associations with personality factors in a large occupational sample that has not been the subject of such research thus far.

## KEYWORDS

BAT  
HEXACO  
personality  
occupational burnout  
gender  
recreational diving instructors

## INTRODUCTION

Diving is a popular recreational outdoor activity that has enjoyed rapid development and high popularity worldwide. Currently, diving is a multimillion dollar industry that deserves attention as one of the fastest developing recreational sports in tourism worldwide (Musa, 2011). Although the profession of a recreational diving instructor may be seen as leisurely, it is located in the context of work institutions and their organization and effectiveness (Diving Industry Marketing, Consulting and Research, 2018). These circumstances may influence the instructors' psychological wellbeing, similar to employees in other professions. Additionally, similar to some other professions, such as doctors or nurses, recreational diving instructors are responsible for the safety, health, and lives of the divers they train (PADI, 2022). The characteristics of this profession also involve an asymmetrical relationship between the instructor and the receiver of their services (i.e., the trainee diver), as well as an element of teaching (transfer of knowledge and skills), which make it similar to the teaching professions. These characteristics may

indicate that the profession of a recreational diving instructor, similar to some other professions (e.g., doctors, nurses, or teachers), may be related to negative psychological consequences, most often referred to in the literature as occupational burnout.

Occupational burnout is defined in the ICD-11 as a syndrome resulting from chronic workplace stress that has not been successfully managed and is characterized by (a) feelings of energy depletion or exhaustion, (b) increased mental distance from one's job, or feelings of negativism or cynicism related to one's job, and (c) reduced professional efficacy. The ICD-11 definition stipulates that burnout refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life.<sup>1</sup>

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One of the most recent psychological conceptualizations of occupational burnout was offered by Schaufeli et al. (2020) in what they call the BURNOUT 2.0 model (Figure 1). According to this model, burnout comprises the four following factors:

- Exhaustion - refers to a significant loss of energy caused by a feeling of physical exhaustion (tiredness, weakness) and psychological exhaustion. The specific symptoms include a lack of energy for work, exhaustion after a day of work, tiredness after minimal effort, and the inability to relax after work.
- Emotional impairment - manifested in intense emotional reactions and a sense of being overwhelmed by one's emotions. The specific symptoms include feelings of frustration and anger at work, irritability, a sense of sadness and despondency for seemingly no reason, and the inability to control one's emotions at work.
- Cognitive impairment - indicated by memory problems, inattention, and poor cognitive abilities. The specific symptoms include difficulties in thinking clearly and learning new things at work, forgetfulness and disorganization, indecisiveness, poor memory, and problems with attention and focus at work.
- Mental distancing - refers to mental distancing from work and a strong aversion toward work. The person withdraws mentally, or even physically, from work, for instance, by avoiding contact with clients or coworkers. This factor is characterized by indifference or cynicism, lack of interest in the work, and a feeling of working "on autopilot."

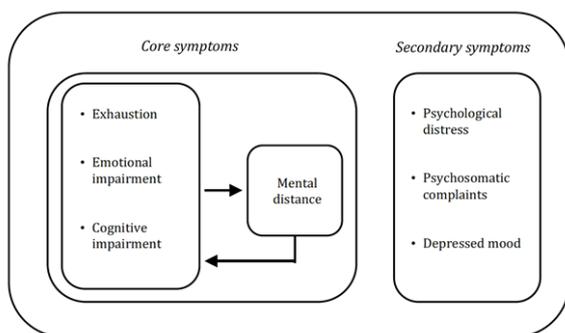
Previous research on occupational burnout focused mainly on its definition, internal structure and dynamics (Chemiss, 1980; Edelwich & Brodsky, 1980; Golembiewski et al., 1993; Maslach, 1982; Pines, 1993; Schaufeli & Enzmann, 1988; Schaufeli et al., 2020) but also on the personal and situational factors that may be significant for the risk of developing and/or worsening occupational burnout in various occupational groups (Kocalevent et al., 2020; Kolachev et al., 2019; Mańkowska, 2019; Tucholska, 2009; Westman & Chen, 2017; Wrzesińska et al., 2015). Among the situational factors related to the risk of occupational burnout, organizational factors, in particular those involving stressful work conditions, are indicated most frequently (Buonomo et al., 2017;

Janssen et al., 1999; Leiter & Maslach, 2004; Maslach & Leiter, 1997; Schaufeli et al., 2009; Şek, 2004). Among the personal factors, age and gender, as well as personality, may play a significant role (Schaufeli & Enzmann, 1998). Occupational burnout is observed more frequently among younger employees, usually in the period between two and four years from the start of employment (Maslach, 1982). There is a tendency for the intensity of occupational burnout symptoms to decrease with age or job experience, as confirmed by Kolachev et al. (2019). Some authors did not report any relationships, or only weak ones, between age, job experience, and occupational burnout symptom intensity (Brouwers et al., 2011; Buonomo et al., 2017; Owoc et al., 2021; Yorulmaz & Altinkurt, 2018). The results of studies on the relationship between gender and occupational burnout are not unanimous thus far. Women usually score somewhat higher on depersonalization (Schaufeli & Enzmann, 1998; Şek, 1994). A meta-analysis (Purvanova & Muros, 2010) of 183 studies did not confirm the common belief that women experience occupational burnout more frequently.

Numerous studies have been devoted to establishing the relationship between occupational burnout and basic personality factors, especially within the Big Five model (Brown et al., 2019; Deary et al., 1996; LePine et al., 2004; Piedmont, 1993; Magnano et al., 2015; Morgan & de Bruin, 2010; Schaufeli & Enzmann, 1998; Zellars et al., 2000). Their results indicated that low emotional stability (i.e., high neuroticism) is a significant risk factor for occupational burnout in all three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment (Alarcon et al., 2009). All other Big Five personality factors showed negative associations of weak or moderate strength with all three occupational burnout dimensions. Openness to experience was not related, or only weakly related, to occupational burnout (Swider & Zimmermann, 2010).

In recent years, the six-factor HEXACO model of personality has been gaining popularity. It is related to the Big Five model, and sometimes it is considered an alternative (Ashton & Lee, 2007). The model has its origins in the lexical studies of personality carried out in various cultures (Angleitner & Ostendorf, 1989; Di Blas & Forzi, 1998; Hahn et al., 1999; Peabody & Goldberg, 1989; Szirmak & De Raad, 1994). These studies showed that, in addition to the Big Five factors, a sixth factor has emerged in a strikingly consistent fashion (Ashton & Lee, 2001; Ashton et al., 2004; Szarota et al., 2007), which the authors have termed H-Honesty-Humility. This alternative, 6-factor representation of the structure of personality has been termed HEXACO by its authors (Lee & Ashton, 2004). According to this model, personality comprises six, rather than five, personality factors: H = Honesty – Humility, E = Emotionality, X = eXtraversion, A = Agreeableness, C = Conscientiousness, O = Openness to Experience.

In their review of studies and theories of the HEXACO factors, Ashton et al. (2014) concluded that the six-factor structure largely corresponds with the classical Big Five model from the early English lexical studies. The X, C, and O factors are largely the same as their analogs in the Big Five, with the exception of the decision to exclude intellectual abilities from the HEXACO O factor. The H, A, and E factors are dissimilar to any of the classical Big Five factors. According to Goldberg (2001), the variance of the Big Five is reorganized in the six-



**FIGURE 1.**

The concept of occupational burnout as the basis of the BURNOUT 2.0 model (Schaufeli et al., 2020, p. 29).

factor structure (for a more detailed depiction of correlations between the Big Five and HEXACO factors, see Ashton et al., 2014).

Although the number of studies using the HEXACO model has increased in recent years, thus far, there have been no studies on the relationships between occupational burnout and personality factors, as conceptualized in this model. Similarly, despite an intensive search, no studies on occupational burnout among recreational diving instructors have been found. Thus, the current study addressed a research gap by extending the analysis of occupational burnout to an occupational group that has not been studied in this context thus far.

The aim of the current study was to explore the relationships between personality factors, as conceptualized in the six-factor HEXACO model, and occupational burnout, conceptualized in Schaufeli's four-factor model among recreational diving instructors. The relationship between the personality factor of honesty-humility and occupational burnout may be a particularly valuable finding, as it has not been studied thus far. Additionally, the study aimed to test whether individual differences such as age, job experience, and gender are related to occupational burnout among recreational diving instructors. The study also aimed to address the question of whether the relationships between occupational burnout and personality factors among recreational diving instructors differ with respect to gender.

## METHOD

### The HEXACO PI-R 60 Personality Inventory

The HEXACO Personality Inventory-Revised, 60 items (HEXACO PI-R 60) is a revised measure of basic personality traits developed by Ashton and Lee (2009). The time required to complete the HEXACO PI-R 60 is relatively brief. The authors recommend using this measure in research contexts where personality traits need to be measured but time limits do not allow for using the full version of the inventory (Ashton & Lee, 2009). The HEXACO PI-R 60 has been made available by its authors for research purposes on their website, <https://hexaco.org>. The questionnaire comprises 60 items, 10 per personality factor. Each factor is divided into four subfactors/facets. Each item is answered on a five-point Likert-type scale (1-5), where 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral (neither agree nor disagree)*, 4 = *agree*, and 5 = *strongly agree*.

The mean score is calculated for each factor and subfactor. The higher the score in a given factor, the higher the level of that factor. The questionnaire is characterized by good psychometric qualities. According to the authors, the internal consistency Cronbach's  $\alpha$  for the original version ranges between 0.73 and 0.80 (Ashton et al., 2014). A study on the stability of the HEXACO PI-R 60 scores carried out by Garcia et al. (2022) in 18 countries shows that it is useful for measuring personality internationally.

### Burnout Assessment Tool (BAT)

The Burnout Assessment Tool (BAT) is a relatively new, although internationally validated measure of occupational burnout based on Schaufeli

et al.'s (2020) theoretical model of burnout. The full version of the BAT consists of two parts: the BAT-CORE measuring the basic symptoms of exhaustion, mental distancing, cognitive impairment, and emotional impairment and the BAT-S measuring the secondary psychological and psychosomatic symptoms of occupational burnout (Schaufeli et al., 2020). The measure is in several language versions, and the scoring keys, manuals, and related publications are openly available for researchers worldwide on the authors' website: <https://burnoutassessmenttool.be>

The current study used the BAT-CORE-23 questionnaire, measuring the basic symptoms of occupational burnout in a 23-item form, covering the following factors: exhaustion (8 items), emotional distancing (5 items), cognitive impairment (5 items), and emotional impairment (5 items). The answer to each item was scored on a 5-point scale: 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Always*.

The severity of occupational burnout symptoms in each dimension is assessed by calculating a mean score for the items in each factor separately. The total mean score is also calculated. Questionnaire scoring and the interpretation of the results were carried out according to the authors' guidelines, using the clinical cutoff values for not at risk of burnout (total score  $\leq 2.58$ ), at risk of burnout (total score 2.59–3.01), and a very high risk of burnout (total score 3.02–5.00; Schaufeli et al., 2019, p. 16). The total score is recommended to be interpreted in terms of the risk of burnout at the moment of testing rather than a definite diagnosis of burnout, as the latter can only be determined in a face-to-face clinical approach. However, the cutoff values are important because they indicate whether the individual's score is "problematic." More specifically, these cutoff values indicate to what extent the individual's score is comparable with those who have been diagnosed as being "burned-out" by trained professionals (Schaufeli et al., 2019, p.13).

The internal consistency of the BAT core symptoms scales ( $\alpha$  coefficient) for the original version ranges between 0.90 and 0.97 (Schaufeli et al., 2020).

### Sociodemographic Data Questionnaire

This questionnaire was created by the author for the purposes of the current study. It collected sociodemographic data and basic information about the participants' work as recreational diving instructors. The current study was carried out as part of a larger research project. In the current study, the demographic variables of age, gender, and job experience were included in the analyses.

### SAMPLE CHARACTERISTICS

The sample consisted of recreational diving instructors serving various functions and occupying various positions in the global diving industry. The questionnaires were hosted on the *Webankieta* program, and a participation link was sent to the prospective participants. The questionnaires were available in the following languages: English, Arabic, Spanish, German, Polish, and Russian.

According to the metrics data from the *Webankieta* program, the questionnaires were accessed a total of 7208 times, out of which 1188 were fully completed. The final pool of respondents qualified for the analyses consisted of 1188 participants, 72.2% of whom were male,

27.5% of whom were female, and 0.3% of whom were other. Thirty-four percent of the participants were between 40 and 49 years old, 26.5% were between 30 and 39 years old, and 22.7% were between 50 and 59 years old (see Table 1 for the detailed sample characteristics).

## STATISTICAL ANALYSES OF THE DATA

Statistical analyses were carried out using the IBM SPSS Statistics 27 package. Basic descriptive statistics were computed for the main variables together with the Kolmogorov-Smirnov normality test. Pearson's  $r$  correlation analysis, chi-square test based on a cross-table, Student's  $t$  test for independent samples, and stepwise regression analyses were carried out in subsequent steps of data analysis. The level of significance was  $p \leq .05$ .

## RESULTS

### Descriptive Statistics and Basic Correlations for the Main Variables

Basic descriptive statistics for the main variables from the study are presented in Table 2. The reliability coefficients (Cronbach's  $\alpha$ ) for the scales measuring each of these variables are also included in the last column of Table 2. Intercorrelations among the main variables are presented in Table 3.

### PREVALENCE OF BURNOUT IN THE SAMPLE

Based on the cutoff values for the total score of the BAT as recommended by Schaufeli et al. (2019), the participants were classified into three subgroups with different risks of the presence of burnout at the moment of the study. As a result, 1 062 (89%) participants were found to have no risk of burnout, 84 (7.1%) participants were at risk of burnout, and 42 (3.5%) participants had a very high risk of burnout at the time of the study. Altogether, 10.6% of the participants were identified as being at risk or at a high risk for occupational burnout.

The same classification procedure was carried out again separately for women and men. The frequencies and ratios of men and women identified as having no risk, elevated risk, and very high risk of burnout at the moment of the study are presented in Table 4. Overall, more women were classified into the risk and very high risk of burnout groups. The difference in the prevalence of the risk of burnout between men and women was found to be statistically significant,  $\chi^2(2) = 6.05, p = 0.049$ .

### LEVELS OF BURNOUT AND SOCIODEMOGRAPHIC VARIABLES

Statistically significant differences in the levels of occupational burnout were found between men and women for all dimensions of burnout and for the overall level of burnout. Lower scores for all indices of burnout were reported by men than by women. All effect sizes were significant but small (see Table 5).

Age was negatively, although weakly, statistically significantly related to the occupational burnout dimensions of exhaustion, mental

distancing, cognitive impairment, and mental impairment, as well as to overall occupational burnout (see Table 6).

Length of job experience (in years) was negatively, although weakly, statistically significantly correlated with the occupational burnout dimensions of exhaustion and cognitive impairment, as well as overall occupational burnout. No statistically significant correlation was found between the length of job experience and mental distancing or emotional impairment (see Table 7).

### LEVELS OF BURNOUT AND PERSONALITY

The correlation coefficients between the personality factors and levels of burnout are presented in Table 8.

Overall occupational burnout was statistically significantly related to all six of the HEXACO personality factors.

A moderate, statistically significant, negative relationship was observed between overall occupational burnout and extraversion. Emotionality was the only statistically significant positive correlate of burnout. Conscientiousness, honesty-humility, and agreeableness were negatively correlated with occupational burnout. The weakest statistically significant and negative relationship with overall occupational burnout was observed for openness to experience.

The analysis of the relationships between the personality factors and the occupational burnout dimensions showed that exhaustion was the most strongly and positively related to emotionality and the least strongly, statistically significantly, and negatively related to agreeableness. No statistically significant relationship between exhaustion and openness to experience was observed.

Mental distancing was most strongly, statistically significant, and negatively related to the personality factors of extraversion and conscientiousness. The statistically weakest and negative relationship with mental distancing was observed for the personality factor of openness to experience.

Cognitive impairment as a dimension of occupational burnout showed the strongest statistically significant negative relationship with the personality factors of conscientiousness and extraversion. The weakest statistically significant relationship was observed for the factor of openness to experience.

Emotional impairment was most strongly, statistically significantly, and positively related to the personality factor of emotionality and the least strongly and negatively related to the personality factor of openness to experience.

Pearson's  $r$  correlation analysis of the relationships with personality factors was also carried out separately for men and for women. Additionally, the correlation coefficients for men and for women were compared using Fisher's  $Z$  test. Thus, we examined whether the strength of the correlations differed between the genders. The cells marked in gray in Table 9 denote those for which the correlations differed statistically significantly between men and women.

Honesty-humility was statistically significant and negatively related to all occupational burnout factors for both women and men. All the relationships were weak in strength.

Emotionality was also statistically significantly related to all occupational burnout factors for both genders. These relationships were

**TABLE 1.**

Sample Demographic and Job Experience Characteristics

Variable	<i>n</i>	%
<b>Gender</b>		
Men	858	72.2
Women	326	27.5
Other	4	0.3
Total	1188	100.0
<b>Age (in years)</b>		
< 30	101	8.5
30 – 39	314	26.5
40 – 49	403	34
50 – 59	270	22.7
> 60	99	8.3
Total	1188	100.0
<b>Job experience (in years)</b>		
< 5	353	29.8
5 - 9	220	18.6
10 - 14	246	20.7
15 - 19	145	12.2
20 - 25	112	9.4
> 25	110	9.3
Total	1188	100.0

positive and moderately strong for exhaustion, cognitive impairment, and overall occupational burnout in women and for emotional impairment in both genders. The remaining relationships between emotionality and the occupational burnout factors were weak.

Extraversion was negatively and statistically significantly related to all factors of occupational burnout for both women and men. For men, extraversion was moderately strongly related to mental distancing and overall occupational burnout, while for women, it was related to exhaustion, mental distancing, emotional impairment, and overall occupational burnout. The remaining results were weak in strength.

In men, agreeableness was negatively and statistically significantly related to mental distancing, cognitive impairment, emotional impairment, and overall occupational burnout, while for women, statistically significant and negative relationships were observed for the same variables except for cognitive impairment. All the relationships were weak in strength.

Conscientiousness was negatively and statistically significantly related to all the factors of occupational burnout for both women and men. These relationships were weak in strength, with the exception of the correlation between conscientiousness and cognitive impairment for both women and men and overall occupational burnout for men. These were moderate in strength.

Openness to experience was negatively and weakly correlated with all the factors of occupational burnout in both women and men, with the exception of exhaustion in men.

The relationship between emotionality and cognitive impairment was different for women and for men. For women, it was stronger,  $Z = 2,133, p = 0,016$ . For women, the relationship between openness to experience and exhaustion was also stronger,  $Z = 2,005, p = 0,023$ . Moreover, the relationships between emotional impairment,  $Z = 2,031,$

$p = 0,021,$  and openness to experience and overall occupational burnout,  $Z = 1,877, p = 0,03,$  were stronger for women.

In contrast, for men, stronger relationships were observed for conscientiousness. For men, conscientiousness was more strongly related to exhaustion,  $Z = -2,057, p = 0,02,$  mental distancing,  $Z = -2,091, p = 0,018,$  and emotional impairment,  $Z = -1,925, p = 0,027$ . Conscientiousness was also more strongly related to overall occupational burnout,  $Z = -1,985, p = 0,024$ .

## Prediction of Occupational Burnout Levels Based on Personality and Sociodemographic Variables in Women and Men

Next, two stepwise regression analyses were carried out to assess the predictive power of the HEXACO personality factors, age, and the length of job experience for the levels of occupational burnout. The analyses were carried out separately for men (see Table 10) and for women (see Table 11).

In men, the stepwise regression analysis yielded the model that comprised agreeableness, job experience, honesty-humility, age, extraversion, emotionality, and conscientiousness as statistically significant predictors of overall levels of burnout (see Table 10). These variables explained 24.3% of the total variance in occupational burnout. Levels of occupational burnout increased for men who were higher in emotionality and had higher job experience. Moreover, occupational burnout was higher for men who were lower in conscientiousness, extraversion, and honesty-humility and who were younger. Age was the strongest single predictor of burnout in the male sample.

In women, the stepwise regression analysis resulted in the model that included extraversion, emotionality, conscientiousness, and openness to experience as statistically significant predictors of burnout (see Table 11). These variables accounted for 23% of the variance in burnout. Notably, fewer variables were found to be predictors of burnout in women (i.e., 4) than in men (i.e., 7).

In women, higher levels of burnout were predicted by higher emotionality, whereas higher extraversion, conscientiousness, and openness to experience were all predictive of lower burnout. Extraversion was the strongest single predictor of burnout in women.

## DISCUSSION

The aim of the current study was to examine the relationships between personality factors and occupational burnout among recreational diving instructors while taking into account gender differences. The current study expanded the existing research on burnout in three ways: 1) using a six- (rather than five-) factor model of personality that has not been employed in studies of occupational burnout thus far, 2) using the most recent theory of occupational burnout (BURNOUT 2.0), together with the BAT, a corresponding measure that has not been previously used in studies on the relationship between occupational burnout and personality factors, and 3) targeting an occupational group that has not been studied in the context of occupational burnout risk and personality factors thus far. Although

**TABLE 2.**

Basic Descriptive Statistics for Personality Factors and Occupational Burnout

	<i>M</i>	<i>Me</i>	<i>SD</i>	Sk.	Kurt.	Min.	Max.	<i>D</i>	$\alpha$
Burnout									
Occupational burnout – total score	1.92	1.87	0.53	0.74	0.89	1.00	4.43	0.06	0.93
Exhaustion	2.38	2.38	0.71	0.49	0.43	1.00	5.00	0.08	0.90
Mental distancing	1.76	1.60	0.67	1.07	1.22	1.00	5.00	0.15	0.79
Cognitive impairment	1.58	1.40	0.59	1.17	2.00	1.00	5.00	0.17	0.90
Emotional impairment	1.67	1.60	0.60	1.10	1.37	1.00	4.40	0.14	0.86
Personality Factors									
Honesty-humility	3.65	3.70	0.58	-0.38	0.41	1.00	5.00	0.06	0.72
Emotionality	2.84	2.80	0.56	-0.04	-0.01	1.10	4.70	0.05	0.71
Extraversion	3.53	3.60	0.52	-0.29	0.26	1.50	4.90	0.07	0.74
Agreeableness	3.15	3.10	0.53	-0.04	-0.03	1.40	4.60	0.04	0.70
Conscientiousness	3.86	3.90	0.49	-0.40	0.61	1.90	5.00	0.06	0.73
Openness to experience	3.55	3.60	0.55	-0.10	-0.07	1.60	5.00	0.04	0.69

Note. *M* = mean; *Me* = median; *SD* = standard deviation; Sk. = skewness; Kurt. = kurtosis; Min. = minimum; Max. = maximum; *D* = the result of the Kolmogorov-Smirnov test;  $\alpha$  = Cronbach's internal consistency. All *p* values were < 0.001.

**TABLE 3.**

Correlations Between the Main Variables of the Present Study

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Emotionality	-.09**	.										
Extraversion	.14***	-.27***	.									
Agreeableness	.30***	-.12***	.21***	.								
Conscientiousness	.25***	-.16***	.27***	.07*	.							
Openness to experience	.14***	-.03	.19***	.11***	.11***	.						
Overall occupational burnout	-.18***	.34***	-.34***	-.17***	-.29***	-.10***	.					
Exhaustion	-.11***	.31***	-.25***	-.08**	-.20***	-.03	.87***	.				
Mental distancing	-.17***	.18***	-.33***	-.16***	-.25***	-.11***	.81***	.60***	.			
Cognitive impairment	-.17***	.24***	-.26***	-.12***	-.35***	-.10***	.77***	.52***	.57***	.		
Emotional impairment	-.17***	.34***	-.28***	-.25***	-.23***	-.10**	.77***	.52***	.51***	.60***	.	
Job experience	0,02	-.13***	.13***	0,00	.09***	0,02	-.11***	-.12***	-.06*	-.07*	-.05	.
Age	0,04	-.14***	.12***	0,00	.10***	0,04	-.23***	-.26***	-.19***	-.11***	-.10***	.61***

Note: (1) = Honesty-humility, (2) = Emotionality, (3) = Extraversion, (4) = Agreeableness, (5) = Conscientiousness, (6) = Openness to experience, (7) = Overall occupational burnout (BAT total score), (8) = Exhaustion, (9) = Mental distancing, (10) = Cognitive impairment, (11) = Emotional impairment, (12) = Job experience

\*  $p \leq .05$  \*\*  $p \leq .01$  \*\*\*  $p \leq .001$

**TABLE 4.**Prevalence of Burnout Risk in Women ( $n = 326$ ) and Men ( $n = 858$ )

Values	Women		Men		$\chi^2$	<i>p</i>
	<i>N</i>	%	<i>N</i>	%		
No risk	280	85.9	779	90.8	6.05	.049
Risk	31	9.5	42	6.1		
Very high risk	15	4.6	27	3.1		
Total	326	100	858	100.0		

**TABLE 5.**

Gender Differences in Levels of Occupational Burnout

	Women ( <i>n</i> = 326)		Men ( <i>n</i> = 857)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Overall occupational burnout	2.05	0.52	1.86	0.53	5.60	< .001	.36
Exhaustion	2.59	0.66	2.30	0.72	6.16	< .001	.40
Mental distancing	1.84	0.67	1.73	0.67	2.38	.018	.15
Cognitive impairment	1.66	0.57	1.55	0.59	3.03	.002	.20
Emotional impairment	1.81	0.64	1.62	0.57	4.82	< .001	.33

Note. *M* = mean, *SD* = standard deviation, *t* = Student's *t* test, *p* = statistical significance level, Cohen's *d* = effect size.

**TABLE 6.**

Correlations Between Occupational Burnout and Age

	Exhaustion	Mental distancing	Cognitive impairment	Emotional impairment	Overall occupational burnout
Age (in years)	-.28***	-.21***	-.13***	-.11***	-.26***

\*\*\*  $p \leq .001$

**TABLE 7.**

Correlations Between Occupational Burnout and Job Experience

	Exhaustion	Mental distancing	Cognitive impairment	Emotional impairment	Overall occupational burnout
Job experience (in years)	-.11***	-.05	-.09***	-.05	-.11***

\*\*\*  $p \leq .001$

**TABLE 8.**Pearson's *r* Correlations Between Occupational Burnout and Personality Factors

	Exhaustion	Mental distancing	Cognitive impairment	Emotional impairment	Overall occupational burnout
Honesty-humility	-.14***	-.17***	-.17***	-.17***	-.18***
Emotionality	.31***	.18***	.24***	.34***	.34***
Extraversion	-.25***	-.33***	-.26***	-.28***	-.34***
Agreeableness	-.08**	-.16***	-.12***	-.25***	-.17***
Conscientiousness	-.20***	-.25***	-.35***	-.23***	-.29***
Openness to experience	-.03	-.11***	-.10***	-.10***	-.10***

\*\*  $p \leq .01$  \*\*\*  $p \leq .001$

**TABLE 9.**Pearson's *r* Correlations for Occupational Burnout and Personality Factors in Men and Women Separately

	Exhaustion	Mental distancing	Cognitive impairment	Emotional impairment	Overall occupational burnout
<b>Men</b>					
Honesty-humility	-.13***	-.17***	-.18***	-.19***	-.20***
Emotionality	.27***	.14***	.19***	.30***	.29***
Extraversion	-.23***	-.32***	-.25***	-.24***	-.32***
Agreeableness	-.06	-.15***	-.14***	-.24***	-.16***
Conscientiousness	-.24***	-.28***	-.36***	-.27***	-.33***
Openness to experience	-.01	-.09**	-.09*	-.07*	-.08*
<b>Women</b>					
Honesty-humility	-.13	-.19***	-.15**	-.17**	-.19***
Emotionality	.31***	.24***	.32***	.33***	.36***
Extraversion	-.30***	-.35***	-.25***	-.32***	-.38***
Agreeableness	-.10	-.17**	-.06	-.28***	-.19***
Conscientiousness	-0.11*	-.015**	-.32***	-.15**	-.21***
Openness to experience	-.14*	-.18***	-.17**	-.20***	-.20***

\*  $p \leq .05$  \*\*  $p \leq .01$  \*\*\*  $p \leq .001$

**TABLE 10.**

Stepwise Regression Analysis Coefficients Predicting the Occupational Burnout Total Score in Men

Model	Predictor/Model $F(7, 847) = 38.80, p > .001$	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)		3.694	0.221		16.732	< .001
Conscientiousness		-0.194	0.037	-0.176	-5.299	< .001
Emotionality		0.198	0.032	0.194	6.266	< .001
Extraversion		-0.192	0.034	-0.186	-5.648	< .001
Age (in years)		-0.012	0.002	-0.229	-6.121	< .001
Honesty-humility		-0.071	0.029	-0.079	-2.449	.015
Job experience		0.006	0.002	0.103	2.762	.006
Agreeableness		-0.071	0.032	-0.070	-2.211	.027

Note. *B* = unstandardized regression coefficient, *SE* = standard error,  $\beta$  = unstandardized regression coefficient, *t* = Student's *t* test, *p* = statistical significance level

**TABLE 11.**

Stepwise Regression Analysis Coefficients Predicting the Occupational Burnout Total Score Based on Extraversion, Emotionality, Conscientiousness, and Openness to Experience in Women

Model	Predictor/Model $F(4, 321) = 23.94; p > .001$	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)		3.148	0.370		8.514	< .001
Extraversion		-0.232	0.050	-0.250	-4.606	< .001
Emotionality		0.211	0.049	0.229	4.255	< .001
Conscientiousness		-0.156	0.050	-0.154	-3.127	.002
Openness to experience		-0.095	0.048	-0.101	-1.995	.047

Note. *B* = unstandardized regression coefficient, *SE* = standard error,  $\beta$  = unstandardized regression coefficient, *t* = Student's *t* test, *p* = statistical significance level

these aspects of the study may seem an advantage, they also brought about an inherent difficulty with directly relating the results of this study to other available studies on occupational burnout and personality factors. Consequently, the discussion of the results needs to be focused more on identifying general trends rather than on direct comparisons.

The current study showed that recreational diving instructors are an occupational group facing a risk of burnout symptoms. Altogether, 10.6% of the recreational diving instructors in the current sample showed an elevated risk or a high risk of occupational burnout based on the clinical cutoff scores. In the context of studies on burnout carried out in other occupational groups (e.g., Almodibeg et al., 2021; López Herrera et al., 2014; Owoc et al., 2021), the results of the current study show that recreational diving instructors have a relatively low frequency of occupational burnout compared to the prevalence rates reported for other occupational groups whose work involves close interpersonal contacts with clients. Compared to the present study, the results of studies carried out in other professions typically yielded higher prevalence ratios of occupational burnout, for instance, 29% in anesthesiology technicians (Almodibeg et al., 2021), 67% in physicians (Owoc et al., 2021), 25.39% in Latin American priests (López Herrera et al., 2014), 39% in police officers (García-Rivera et al., 2020), and 23.9% in physical education teachers (Alsálhe et al., 2021).

Altogether, 14.1% of women and 9.2% of men in the current sample of recreational diving instructors scored at the level indicative of an elevated risk or a very high risk of occupational burnout at the time of the study (see Table 4). These numbers are difficult to compare directly

with findings from other studies, since in a large majority of publications on gender and burnout, the authors constrain themselves from reporting data on the ratios of burnout in men and women (e.g., Muasa et al., 2012; Owoc et al., 2021; Yorulmaz, 2018). Most previous studies have focused on the relationships between gender and the individual dimensions or symptoms of occupational burnout (within Maslach's three-dimensional model) and mostly report higher levels of emotional exhaustion in women than men and higher levels of depersonalization in men than in women (e.g., Brouwers et al., 2011; Muasa et al., 2021; Redondo-Flórez et al., 2020). This is confirmed by a meta-analysis by Purvanova and Muros (2010), which comprised the results of 183 studies on gender and occupational burnout and found that 54% of women experience emotional exhaustion vs. only 46% of men (8% difference) and that 57% of men experience depersonalization vs. only 43% of women (14% difference).

The comparison of the burnout levels in men and women from the current sample (see Table 5) showed higher severity of all burnout symptoms in women: exhaustion (Cohen's  $d = 0.40$ ), mental distancing (Cohen's  $d = 0.15$ ), cognitive impairment (Cohen's  $d = 0.20$ ), emotional impairment (Cohen's  $d = 0.33$ ), and overall occupational burnout (Cohen's  $d = 0.36$ ).

These results are only partially in accordance with the results of prior studies on this topic, in which men are usually reported as having higher levels of depersonalization (the burnout symptom most closely related to mental distancing from our study), while women are usually reported as having higher levels of emotional exhaustion (e.g., Brouwers et al., 2011; Muasa et al., 2021; Purvanova & Muros, 2010; Redondo-Flórez et al., 2020). This discrepancy between the findings from the current study

and those reported in other studies may be related to certain job characteristics specific to recreational diving instructors, as this profession is largely dominated by men, and gender differences in burnout levels may be job specific. This claim requires further verification.

Regarding the findings on the relationships between personality factors and burnout, it must be remembered that the current study was the first to utilize the six-factor model of personality in this context. In the majority of previous studies, burnout was examined in relation to the five-factor model of personality. A meta-analysis of studies on the relationship between the Big Five personality traits and occupational burnout dimensions, as measured by the MBI (Alarcon, 2009; Swider & Zimmermann, 2010), showed a positive correlation between neuroticism and all occupational burnout factors, as well as negative associations with extraversion, conscientiousness, agreeableness, and openness to experience.

The findings from the current study corroborate the evidence that emotionality (equivalent to neuroticism from the Big Five model) is the main predictor of higher occupational burnout and correlates positively and moderately with all occupational burnout dimensions and with the overall occupational level of burnout ( $r$ s ranging from .18 to .34, see Table 8). The personality factors of extraversion, agreeableness, and conscientiousness were found to be related to lower occupational burnout, and these relationships were weak to moderate in strength ( $r$ s ranging from  $-.08$  to  $-.35$ ). Similarly, the relationships between these personality factors and occupational burnout are in accordance with those reported for these personality traits in other studies. In the current study, openness to experience was only partially and weakly related to lower occupational burnout ( $r$ s ranging from  $-.03$  to  $-.11$ ). Similarly, in most previous studies, this factor seems to have the lowest significance for predicting occupational burnout. Honesty-humility – studied for the first time in the context of occupational burnout – was negatively related to all dimensions of burnout, although this relationship was weak ( $r$ s ranging from  $-.14$  to  $-.18$ ). The associations of honesty-humility with the overall level of burnout were found to be significant but still weak and similar in strength for both men and women. Thus, it can be cautiously concluded that higher honesty-humility seems to be weakly related to lower levels of occupational burnout in recreational diving instructors. However, since this finding is reported here for the first time, further studies are needed to replicate it and to verify whether the same relationship is observed for professions other than recreational diving instructors.

The analysis of the results of the comparison of the correlation coefficients of occupational burnout and personality factors for both genders identified those correlation coefficients that were statistically significantly different for men and for women (see Table 9). For women, the stronger relationships were those between emotionality (a positive relationship) and cognitive impairment, as well as openness to experience and exhaustion, emotional impairment, and overall occupational burnout. For men, the stronger relationships were those between conscientiousness and exhaustion, mental distancing, emotional impairment, and overall occupational burnout. No similar studies comparing the relationships between personality factors and dimensions of occupational burnout between genders have been identified.

Armon et al. (2012) examined, among others, the gender differences in the relationship between neuroticism and conscientiousness and occupational burnout (with a second measurement carried out after 24 months). The study used the Big Five Mini-Marker Scale and the Shirom-Melamed Burnout Measure (SMBM), measuring three dimensions of occupational burnout: physical fatigue, cognitive weariness, and emotional exhaustion. In particular, for women, neuroticism negatively predicted emotional exhaustion both in T1 and T2 ( $\beta = -0.68, -0.48; p < .05$ , respectively). For men, neuroticism positively predicted cognitive weariness in T1 and negatively in T2 ( $\beta = 0.16, -0.25; p < .05$ , respectively). In the current study, a stronger effect of neuroticism on all factors of occupational burnout was also observed. As hypothesized, this relationship was positive. Armon et al. (2012) also reported that in women, conscientiousness negatively predicted global occupational burnout in T1 and T2 ( $\beta = -0.35, -0.17; p < .05$ , respectively) and negatively predicted cognitive weariness in T1 and T2 ( $\beta = -0.17, -0.28; p < .05$ , respectively). On the other hand, it positively predicted emotional exhaustion in T1 and T2 ( $\beta = 0.42, 0.36; p < .05$ , respectively). The authors also reported the same pattern of results for men, although only in T1. In the current study, conscientiousness showed only negative relationships with overall occupational burnout and all its dimensions. These relationships were statistically stronger in men than in women.

The stepwise regression analyses that estimated the predictive value of personality and sociodemographic factors on overall occupational burnout separately for each gender resulted in the models explaining very similar amounts of variance in burnout (23% of the variance in burnout for women and 24.3% for men). This suggests that, quantitatively, personality and sociodemographic factors are responsible for a very similar proportion of variance in burnout, irrespective of gender. What is worth noting, however, is that the pattern of the variables that were found to significantly predict burnout was different for men and women. The resultant regression model for men included personality factors, age, and job experience, with age being the strongest predictor ( $\beta = -0.23, p < .001$ ). Additionally, in men, extraversion ( $\beta = -0.19, p < .001$ ) and emotionality ( $\beta = 0.19, p < .001$ ) were somewhat weaker predictors of burnout. In contrast, in women, the final regression model comprised only the personality factors, and no sociodemographic factors were found to be a statistically significant predictor of burnout. For women, extraversion ( $\beta = -0.25, p < .001$ ) and emotionality ( $\beta = 0.23, p < .001$ ) were found to be the strongest predictors of burnout. These findings suggest that in female recreational diving instructors, personality may constitute a more important factor contributing to the risk of occupational burnout than in men. For men, in turn, the risk of burnout may be determined by both personality traits and sociodemographic factors, such as the length of job experience or age, with the latter possibly playing the primary role. Brewer and Shapard (2004), in a meta-analysis study of the relationship between employee burnout and age, reported a small negative correlation between employee age and years of experience in a field and emotional exhaustion (no gender differences were analyzed).

In the context of this last finding, it seems interesting in what manner age translates to lower burnout levels in male instructors. It is

probable that along with age, diving instructors develop beneficial coping skills that allow them to counteract burnout, or if they experience burnout, they may be more prompt to leave this occupation. If this is true, and taking into account that age and the length of job experience were not found to be predictors of burnout in women, this would mean that the same mechanisms are not involved in female diving instructors. This interpretation needs to be taken with the highest caution, however, since there is still scant evidence to support such claims, and it remains unclear why women would differ from men in this respect. Additionally, it should also be remembered that the number of women in the current study was significantly lower than the number of men, which could also lead to some predictors not reaching the statistical significance level in women due to a smaller sample size. In such cases, the finding could be just a statistical artifact.

The relationship between increased occupational burnout (on the factor of emotional exhaustion) and emotionality in women compared to men was also highlighted in the study by Redondo-Florez et al. (2020). It is possible that women are characterized by higher emotionality overall, as was suggested by a study by Schmitt et al. (2008), in which men reported lower neuroticism than women ( $d = -0.40$ ) in most of the examined cultures (in 55 countries). Similar results were reported by Murphy et al. (2021), who carried out an international comparison (105 countries) of gender differences in the Big Five personality factors and found lower neuroticism in men ( $d = -0.38$ ) than in women. The recent study by Lee and Ashton (2020) using HEXACO shows that across the compared countries (48 countries), women averaged higher than men in emotionality ( $d = 0.84$ ). If this is the case and neuroticism (emotionality) is a strong predictor of occupational burnout, this could explain the higher levels of occupational burnout and the more vital role of personality in explaining burnout in the current study's female subsample.

Using the six-factor HEXACO model (Ashton & Lee, 2009) in the current study was a novel approach in the field of research on the relationships between personality factors and occupational burnout. Thus, the sixth factor of honesty-humility, as conceptualized in this model, could have been examined for the first time in relation to burnout, and it was found to have weak, but statistically significant, negative associations with all dimensions of occupational burnout. Previous studies (Ashton, 2014, Thielmann et al. 2021) on the internal relationships among personality traits showed that honesty-humility was most strongly correlated with agreeableness and conscientiousness from the Big Five model and that these factors were negatively correlated with all the occupational burnout dimensions within Maslach's burnout model (Brown et al., 2019). The current findings show that honesty-humility is negatively related to all dimensions of occupational burnout. In the current study, honesty-humility was also one of the predictors of overall occupational burnout ( $\beta = -0.08, p = .015$ ) in men. Generally, these findings – regarding the role of honesty-humility in burnout – demonstrate that this personality trait may be a significant contributor to the risk of burnout; however, its role may be different for women and men. On a wider plane, these findings provide support for the HEXACO model of personality, as they suggest that this trait may be a contributor

to mental health status (in this study: to the risk of burnout) independently of other personality traits. Therefore, the HEXACO personality model, which postulates this trait, may reveal an advantage in its prediction scope over the Big Five personality model, which does not postulate an independent status of the honesty-humility trait. Clearly, the validity of these interpretations depends on whether future studies are able to replicate the findings from the current study, preferably across a wider range of populations and with regard to indicators of psychological and behavioral functioning other than burnout alone.

## LIMITATIONS

The current study has several limitations. Using the six-factor HEXACO model of personality in the context of occupational burnout did not allow for direct comparisons with previous studies on this topic, which mostly utilized the Big Five model. Schaufeli et al.'s (2020) theory of occupational burnout, together with the corresponding BAT measure, was also used to examine the relationships between occupational burnout and personality factors for the first time. Since this theory postulates a four-factor structure of burnout (exhaustion, mental distancing, cognitive impairment, emotional impairment), in contrast to the three-factor structure of burnout adopted in most previous studies, it also hampers direct comparisons with other studies.

Another limitation pertains to the fact that the current study was advertised via email, and the participants completed the questionnaires based on self-reports. The questionnaires were accessed (opened) by over seven thousand individuals but only 1,188 recreational diving instructors fully completed them, and the author could not determine the reasons for drop-out or various characteristics of those participants who failed to complete the questionnaires. Thus, it cannot be excluded that individuals with higher occupational burnout were more likely to withdraw from the study or did not accept invitation to participate due to their worse mental condition. Additionally, if the drop-out was caused by some systematic error (e.g., some personality trait, such as low conscientiousness), this could lead to an underrepresentation of the individuals with such traits in the sample and, consequently, to skewed distributions of such traits. This, in turn, may have affected the findings in which such traits were included. An additional limitation is the fact that the study was carried out during the COVID-19 pandemic, which severely affected the tourism industry, including recreational diving and recreational diving instructors. It is not known how the resulting changes in the occupational situation may have affected the results. The question of whether organizational factors have a stronger influence on the development of occupational burnout among recreational diving instructors should be answered in a separate study.

Since the current study was cross-sectional in nature, conclusions on the causal role of personality factors in the development of occupational burnout must certainly be limited.

## CONCLUSIONS

Thus far, recreational diving instructors have not been considered in studies on occupational burnout. Stress, negative mental health, or the initial symptoms of occupational burnout may have far-reaching consequences, not only for the instructors themselves or their organizations but also for the safety and health of the clients, as diving is not a natural context for humans. Therefore, the current study on the psychological determinants of occupational burnout among recreational diving instructors should be treated as pioneering and should serve as encouragement to continue examining this profession in future research.

## FOOTNOTES

1. <https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>

## DATA AVAILABILITY

Data for the current study is available from the corresponding author upon reasonable request.

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